

Passive Parallel has a long history of success and it is the post by which all others are measured. However, it is not kind to the retention of structure in the apical third of the root canal.

Active Posts imply that the threads actually engage the pericardial dentin. Its primary indication is a short root or canal space. This post is the most retentive but also the most destructive.

Carbon Fiber and Quartz is an important enough category to occupy its own sub-heading. It is available in many different configurations to assure the least amount of canal destruction.

CANAL PREPARATION

There are three primary methods of gutta percha removal: instruments, heat, and solvents. Whichever method is chosen, care must be taken not to damage the periodontal ligament. Injudicious use of mechanical reamers may cause a significant temperature increase on the root surface.^{34,35} Peeso reamers show the greatest rise in temperature, Gates Glidden the least. Similarly a hot instrument may damage the periodontal ligament. Post space preparation may take place on the same appointment as the canal is obturated or it can be delayed twenty-four hours or more. The in vitro data does not indicate that one method is superior to another.

CEMENT PLACEMENT

Spinning the cement into the canal with a lentulo has been shown to be the most effective method of placement. Needles and tubes are also effective as long as they reach the bottom of the canal. The post should be coated with the cement before placement.

LUTING CEMENTS

Some of the reviews suggest problems with bonding when zinc oxide is used as the cement for obturation. The claim is that bonding will not occur unless significant removal of canal dentin takes

place before cementation. However a study by Mannocci et al³⁶ suggests that the use of endodontic sealers containing ZOE have no effect on the marginal seal of carbon fiber post/composite resin core restorations. The movement today is toward resin ionomer and composite cements to create a monobloc between the post, radicular dentin and the core. Further research is needed to create a self-curing one step etch and bonding agent matched with a high strength core material. The key is to be able to use the same material for the cementation of the post as well as the core build up.

This monobloc would have the strength needed to function under load, would increase fracture resistance of the tooth and would be re-treatable.

PREVALENT PHILOSOPHIES OF RESTORATIVE TECHNIQUES

According to the work of Morgano et al³⁷ there is no consensus as to the best method of how to restore this unique subset of teeth. The majority of dentists in the United States use either cast posts exclusively or both cast and prefabricated. Forty per cent of GP's use prefabricated all the time. The most popular post is the prefabricated serrated parallel sided. Composite core is the most popular core for GP's (45%) and educationally qualified prosthodontists (43%) whereas board certified prosthodontists use amalgam (52%).

FINAL CONSIDERATIONS

The longevity of endodontically treated teeth depends on the **quality of the endodontic procedure, a good seal while the final restoration is arranged and a concept of minimal invasive dentistry.** From this strict beginning the final restoration is developed taking into consideration the amount of coronal destruction, tooth position in the arch, para-functional activity, fracture history and functional load. If a post is

required, carbon, quartz or glass-reinforced epoxy resin posts are quickly becoming state of the art. According to the manufacturer's information carbon and quartz fiber-reinforced posts have equivalent physical mechanical characteristics. Quartz is the first choice when esthetics is the driving force of the restoration

The shape of the post must be determined by the morphology and the size of the endodontic preparation which must acquiesce to the principal of preservation of remaining dentin. Most of the canal space should be taken up by the post to prevent micro porosities inside the cement and undue polymerization shrinkage.

Recently, Resilon Research LLC, (Madison, CT) has introduced Resilon obturating points and a resin sealer which when used in combination with a self etching primer after smear layer removal, allows for the creation of a solid monobloc (a material which is contiguous from its resin tags in cleared dentinal tubules through sealer to the core canal filler).³⁸

In light of all the scientific literature available on the subject it is becoming more logical for the restoration of the endo-coronal complex to be completed by the endodontist.² Obviously, this will mean close co-operation and treatment planning between the generalist and specialist involved in the restoration. **OH**

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Oral Health welcomes this original article.

REFERENCES

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